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10/099,823

| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO.  |
|---|-------------|----------------------|---------------------|-------------------|
| 10/099,823  | 03/13/2002  | James T. Grutta      | DP-305782           | 2707              |
| 7590  | 02/27/2004  |                      | EXAMINER            |                   |
| Edmund P. Anderson, Esq.<br>Delphi Technologies, Inc. M/C 480.414.420<br>1450 West Long Lake, 4th Floor<br>Troy, MI 48098 |             |                      |                     | VARGOT, MATHIEU D |
|   |             | ART UNIT             |                     | PAPER NUMBER      |
|   |             | 1732                 |                     |                   |

DATE MAILED: 02/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

| Application No.   | Applicant(s) |
|-------------------|--------------|
| 10/099,823        | GRUTTA ET AL |
| Examiner          | Art Unit     |
| Mathieu D. Vargot | 1732         |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1)  Responsive to communication(s) filed on 22 December 2003.
- 2a)  This action is FINAL. 2b)  This action is non-final.
- 3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4)  Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5)  Claim(s) \_\_\_\_\_ is/are allowed.
- 6)  Claim(s) 1-34 is/are rejected.
- 7)  Claim(s) \_\_\_\_\_ is/are objected to.
- 8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9)  The specification is objected to by the Examiner.
- 10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All b)  Some \* c)  None of:
    1.  Certified copies of the priority documents have been received.
    2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1)  Notice of References Cited (PTO-892)
- 2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/10, 11/12, 12/1.
- 4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5)  Notice of Informal Patent Application (PTO-152)
- 6)  Other: \_\_\_\_\_.

1. Applicant's comments set forth in the response of December 22, 2003 concerning the restriction are persuasive and the requirement has henceforth been dropped. An action follows on all the claims 1-34.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 11-13 and 24-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent 4-229,209.

The applied reference teaches the instant product which is a thermoplastic reinforced with conductive fibers, the fibers allowing the thermoplastic to be heated up to softening or melting, the product being molded while the thermoplastic is moldable. It is noted that applicant has amended product claims 11, 12, 24 and 25 to include the aspect of compressing the product while flowing the current and while cooling. However, these are process considerations which do not affect the product in a structural sense and hence do not impart patentability to the claims. Ie, the product would still be the same whether or not the compression is performed during heating and cooling or not. The same for the particular current and voltage applied during the heating. Clearly, such process considerations do not affect the product, as long as the voltage and current applied would allow for melting/softening of the thermoplastic so that it would be molded. Japanese –209 does this.

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3. Claims 27-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Kalnins (see Figure 3; col. 5, lines 12-14 and 42-45; col. 6, lines 3-14; col. 7, lines 56-60; col. 8, lines 27-68).

The applied reference discloses the instant apparatus for heating a composite structure including means for supplying a current/voltage, means for controlling the current/voltage (see Figure 3) and means for flowing the current across the composite. The supplying means would be AC or DC, the latter encompassing a battery. Clearly, the controller would be either analog or digital. Kalnins teaches metal electrodes as the connection means and a conducting means comprising electrical wiring would have been inherent in the operation of the apparatus.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10 and 14-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent 4-229209 in view of Kalnins.

Japanese -209 is applied for reasons of record as set forth in paragraph 2, supra, the primary reference essentially lacking the aspects of regulating the current/voltage, that compression is applied both during current flow and during cooling of the composite and finally a clear showing of any particular current or voltage which would be used.

However, Kalnins discloses explicitly the first two aspects at column 8, lines 27-68 and

column 6, lines 3-14, respectively, as well as suitable currents—see column 5, lines 12-14. As is known from Ohm's Law, if the current and resistance are known then voltage drop across can be easily calculated. Hence, using the current disclosed in Kalnins and knowing the resistance of the composite which is heated, one would easily arrive at the desired voltage across. Since both references deal with heating and shaping a composite material, they are clearly analogous art, although Kalnins is concerned with thermosetting mixtures while Japanese -209 molds thermoplastics. Certainly, one of ordinary skill in the art would have found it obvious to have modified the process of Japanese -209 as taught by Kalnins to facilitate the formation of the composite without overheating portions thereof. It is respectfully submitted that the exact current (and hence voltage, from Ohm's Law) and pressure applied during the molding constitute result effective variables whose values would have been readily determined through routine experimentation to facilitate the molding. For instance, see Kalnins column 5, lines 42-45 and column 6, lines 18-27.

5. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Applicant's comments directed to Maimets and Gould are now moot in view of the new grounds of rejection. However, certain arguments raised by applicant against these references may still be considered to be applicable against the new rejection and this will now be addressed. First of all, it is immaterial as to whether compression is applied while current flows through the preform for the product claims 11, 12, 24 and 25.

Similarly as to the exact current/voltage set forth in product claims 25 and 26. Of course, these limitations would need to be met in some manner concerning the process claims. While not necessarily conceding the propriety of the first rejection on the process claims, it is believed that the new art is more akin to the instant invention and hence a new rejection has been made. It is respectfully submitted that the rejection as now applied addresses applicant's concerns as pertaining to the current, voltage and pressure applied during molding. As shown in Kalnins, these aspects are all well within the skill level of the art. Hence, their obviousness, if not previously demonstrated, is submitted to now be properly of record.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mathieu D. Vargot whose telephone number is 571 272-1211. The examiner can normally be reached on 9 from 6 to Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaianni, can be reached on 571 272-1196. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M. Vargot  
February 20, 2004

*M. Vargot*  
Mathieu D. Vargot  
Primary Examiner  
Art Unit 1732

*2/20/04*